



**King County**

Department of Natural Resources and Parks  
Wastewater Treatment Division

**Technology Assessment and Resource Recovery**

# biosolids recycling

**2006 Summary**

## Where do the biosolids go?

**F**or more than 30 years, King County has been turning wastewater solids into a natural resource called biosolids. This valuable soil amendment can be used to build soils, revegetate barren areas, and fertilize crops and other plants.

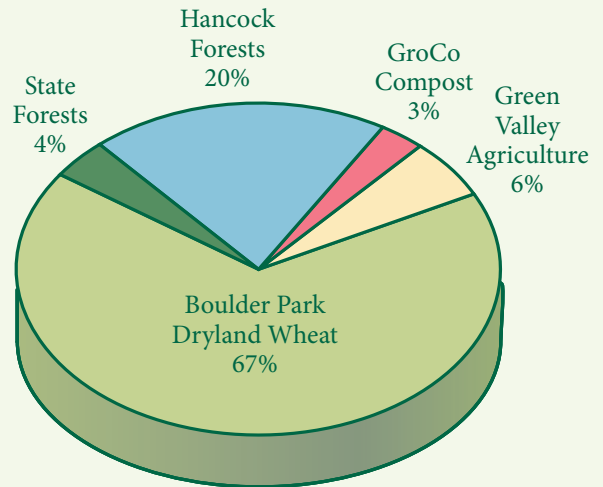
All King County's biosolids are used beneficially in agriculture and forestry or as an ingredient in compost. When recycled into the soil, biosolids will:

-  *retain soil moisture*
-  *reduce erosion*
-  *add organic matter*
-  *improve soil tilth*
-  *slowly release essential nutrients*



*Harvesting the first experimental canola crop.*

King County was a pioneer in recycling biosolids. While other cities were landfilling and ocean-dumping their wastewater solids, King County was working with the University of Washington to find the safest, most effective uses for this nutrient-rich material. Our biosolids easily meet the most stringent quality requirements for land application. The U.S. Environmental Protection Agency has twice recognized our program as the best in the nation.



109,610 tons of biosolids  
(26,111 tons of dry solids)

West Point: 48,844 tons (4 daily truckloads)

South Plant: 60,766 tons (6 daily truckloads)

King County spent about \$5.4 million in 2006 on its biosolids management program. Land application and transportation to project sites averages \$37 per ton. The program generated more than \$100,000 in fertilizer revenue from customers.

Transportation to project sites	60%
Land application	17%
Land application support (monitoring, research, permits)	12%
Staff wages and benefits	11%
Total Budget	100%



For more information  
on biosolids, visit:  
[www.dnr.metrokc.gov/WTB/biosolids](http://www.dnr.metrokc.gov/WTB/biosolids)

## Partnerships in Recycling

### 1 Boulder Park Soil Improvement Project

encompasses more than 50,000 acres of dryland grain crops in Douglas County. More than 120 landowners and farmers participate in this project. Biosolids from other agencies are also recycled at this site, helping to satisfy local demand. In 2006, biosolids from King County fertilized 5,600 acres of wheat and 400 acres were fertilized with biosolids from other sources.

### 2 Green Valley Project

in the Yakima Valley includes more than 35,000 acres of hops, orchards, canola, grain, and managed rangeland. The project sponsors are also using biosolids and crop residuals to create a compost. In 2006, 128 acres of hops received King County biosolids.

### 3 GroCo Compost

has been produced and marketed by a private company, GroCo Inc., for more than 30 years. This composted blend of biosolids and sawdust is used in residential and commercial landscaping, home gardens, and soil restoration.

### 4 Mountains to Sound Greenway (MTSG)

**Biosolids Forestry Program** is a partnership of private and public agencies that uses biosolids to fertilize and preserve working forests in eastern King County. In 2006, biosolids were applied to 320 acres of state forestlands and to 1,207 acres of Douglas-fir plantations in Hancock's Snoqualmie Forest.

## Continual Improvement

In 2006, King County's Wastewater Treatment Division continued implementation of its certified Environmental Management System (EMS) for biosolids. Team members are from West Point and South Treatment Plants, Industrial Waste/Pretreatment, Environmental Planning, Biosolids Program and biosolids application and haul contractors. As our program matures, we look for more ways to continually improve our operations. Our accomplishments include:

- *Improved safety of haul operations*
- *Used B20 biodiesel in our fleet during warm months*
- *Reduced the concentration of metals in our biosolids*
- *Increased permitting of biotechnology and septage hauling industry*
- *Optimized biosolids production to save energy and polymer usage*

Maximizing opportunities for continual improvement and maintaining EMS certification are our future goals.

### The Biosolids Team

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For more information on biosolids recycling or for tours or lectures, see our Web pages at [www.dnr.metrokc.gov/WTD/biosolids](http://www.dnr.metrokc.gov/WTD/biosolids) or call 206-684-1247.

Alternative formats available  
206-684-1247 (voice) or 711 (TTY)

## Research and Education

King County is a founding member of the Northwest Biosolids Management Association (NBMA), which encourages environmentally sound management of biosolids. Members collaborate on research, share technical information, and offer training on biosolids recycling.

In 2006, biosolids staff worked with a soil scientist from the University of Washington to estimate carbon sequestration for our biosolids recycling options. They also evaluated the potential for biosolids application projects to qualify for carbon credits that could be traded on the Chicago Climate Exchange. Research will continue in 2007 on methods to increase carbon storage with biosolids.



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